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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22850 7590 08/26/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

MOSS, KERI A

ART UNIT

PAPER NUMBER

1797

DATE MAILED: 08/26/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,805

02/07/2006

Hironori Tashiro

274011US0PCT

6797

TITLE OF INVENTION: METHOD OF MEASURING BIODEGRADATION RATE OF UNNATURAL ORGANIC COMPOUND

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	11/27/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

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#### I. Review the SMALL ENTITY status shown above.

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If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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22850 7590 08/26/2009

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,805 02/07/2006 Hironori Tashiro 274011US0PCT 6797

TITLE OF INVENTION: METHOD OF MEASURING BIODEGRADATION RATE OF UNNATURAL ORGANIC COMPOUND

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 11/27/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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MOSS, KERI A 1797 436-057000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

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- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,805	02/07/2006	Hironori Tashiro	274011US0PCT	6797
22850	7590	08/26/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			MOSS, KERI A	
			ART UNIT	PAPER NUMBER
			1797	
DATE MAILED: 08/26/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 610 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 610 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/539,805	TASHIRO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	KERI A. MOSS	1797	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed February 2, 2009.
2. ☒ The allowed claim(s) is/are 4,5,7-15 and 18-20, renumbered as 1-14, respectively.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>2/2/09</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

/Vickie Kim/  
Supervisory Patent Examiner, Art Unit 1797

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Kirsten Grüneberg on August 7, 2009.

The application has been amended as follows:

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Claims 1-3. (Canceled)

Claim 4. (Currently Amended) A method for measuring a biodegradation rate of a non-natural organic compound in the presence of a biodegradation medium, comprising:

preparing a sample medium by adding the non-natural organic compound to the biodegradation medium and without enriching said sample medium with a radioactive carbon isotope  $^{14}\text{C}$ ;

measuring a concentration of  $^{14}\text{C}$  (pMC) of a control medium before biodegradation which is the biodegradation medium without said non-natural compound;

measuring a concentration of  $^{14}\text{C}$  (pMC), carbon, and metal as an internal standard of the sample medium before and after biodegradation;

calculating the biodegradation rate by using the obtained pMC values for the following calculation formulae:

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$$B = \frac{\left( \text{pMC of control medium} \right) - \left( \text{pMC of sample medium} \right)}{\left( \text{pMC of control medium} \right)} \quad (1)$$

$$C = \frac{\left( \text{pMC of control medium} \right) - \left( \text{pMC of sample medium} \right)}{\left( \text{pMC of control medium} \right)} \quad (2)$$

wherein a carbon content in the sample medium before biodegradation (D) is

$$D = \frac{\text{Carbon content derived from sample (g)}}{B} \quad (3)$$

wherein a carbon content in sample medium after biodegradation (E) is

$$E = D - \text{Amount of carbon dioxide discharged from sample medium (g)} \times \frac{12}{44} \quad (4)$$

and wherein a biodegradation rate is

$$\text{Biodegradation rate (\%)} = \left[ 1 - \frac{E \times C}{D \times B} \right] \times 100 \quad (5)$$

$$= \left[ 1 - \frac{E \times C}{\text{Carbon content derived from sample (g)}} \right] \times 100 \quad (6);$$

or

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wherein said biodegradation rate is determined using the following calculation formulae

$$H = \frac{F}{G} \times D \quad (7)$$

$$E = \frac{J}{I} \times K = \frac{J}{I} \times \frac{F}{G} \times D \quad (8)$$

wherein

F: metal concentration of sample medium before biodegradation;

G: carbon concentration of sample medium before biodegradation;

I: metal concentration of sample medium after biodegradation;

J: carbon concentration of sample medium after biodegradation;

D: carbon content (g) of sample medium before biodegradation;

E: carbon content (g) of sample medium after biodegradation;

H: metal content (g) of sample medium before biodegradation;

K: metal content (g) of sample medium after biodegradation; and  $K = H_2$

and

wherein said non-natural compound is a petrochemical and/or a coal chemical synthesized from a raw material of fossil fuel.

Claim 5. (Previously Presented) The method according to claim 4, wherein said metal is selected from the group consisting of iron, copper, manganese and mixtures thereof.

Claim 6. (Canceled)

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Claim 7. (Currently Amended) The method according to claim ~~[[6]]~~ 4, wherein the fossil fuel is petroleum, coal or natural gas.

Claim 8. (Currently Amended) ~~The method according to claim 4, A method for measuring a biodegradation rate of a non-natural organic compound in the presence of a biodegradation medium, comprising:~~

preparing a sample medium by adding the non-natural organic compound to the biodegradation medium and without enriching said sample medium with a radioactive carbon isotope  $^{14}\text{C}$ ;

measuring a concentration of  $^{14}\text{C}$  (pMC) of a control medium before biodegradation which is the biodegradation medium without said non-natural compound;

measuring a concentration of  $^{14}\text{C}$  (pMC), carbon, and metal as an internal standard of the sample medium before and after biodegradation;

calculating the biodegradation rate by using the obtained pMC values for the following calculation formulae:

$$B = \frac{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{before biodegradation} \end{array} \right) - \left( \begin{array}{c} \text{pMC of sample medium} \\ \text{before biodegradation} \end{array} \right)}{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{before biodegradation} \end{array} \right)} \quad (1)$$

$$C = \frac{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{after biodegradation} \end{array} \right) - \left( \begin{array}{c} \text{pMC of sample medium} \\ \text{after biodegradation} \end{array} \right)}{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{after biodegradation} \end{array} \right)} \quad (2)$$

wherein a carbon content in the sample medium before biodegradation (D) is

$$D = \frac{\text{Carbon content derived from sample (g)}}{B} \quad (3)$$

wherein a carbon content in sample medium after biodegradation (E) is

$$E = D - \text{Amount of carbon dioxide discharged from sample medium (g)} \times \frac{12}{44} \quad (4)$$

and wherein a biodegradation rate is

$$\text{Biodegradation rate (\%)} = \left[ 1 - \frac{E \times C}{D \times B} \right] \times 100 \quad (5)$$

$$= \left[ 1 - \frac{E \times C}{\text{Carbon content derived from sample (g)}} \right] \times 100 \quad (6)$$

or

wherein said biodegradation rate is determined using the following calculation

formulae

$$H = \frac{F}{G} \times D \quad (7)$$

$$E = \frac{J}{I} \times K = \frac{J}{I} \times \frac{F}{G} \times D \quad (8)$$

wherein

F: metal concentration of sample medium before biodegradation:

G: carbon concentration of sample medium before biodegradation;  
I: metal concentration of sample medium after biodegradation;  
J: carbon concentration of sample medium after biodegradation;  
D: carbon content (g) of sample medium before biodegradation;  
E: carbon content (g) of sample medium after biodegradation;  
H: metal content (g) of sample medium before biodegradation;  
K: metal content (g) of sample medium after biodegradation; and  $K = H$ ;  
wherein the non-natural organic compound is a synthetic detergent.

Claim 9. (Currently Amended) ~~The method according to claim 4;~~ A method for measuring a biodegradation rate of a non-natural organic compound in the presence of a biodegradation medium, comprising:

preparing a sample medium by adding the non-natural organic compound to the biodegradation medium and without enriching said sample medium with a radioactive carbon isotope  $^{14}\text{C}$ ;

measuring a concentration of  $^{14}\text{C}$  (pMC) of a control medium before biodegradation which is the biodegradation medium without said non-natural compound;

measuring a concentration of  $^{14}\text{C}$  (pMC), carbon, and metal as an internal standard of the sample medium before and after biodegradation;

calculating the biodegradation rate by using the obtained pMC values for the following calculation formulae:

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$$B = \frac{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{before biodegradation} \end{array} \right) - \left( \begin{array}{c} \text{pMC of sample medium} \\ \text{before biodegradation} \end{array} \right)}{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{before biodegradation} \end{array} \right)} \quad (1)$$

$$C = \frac{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{after biodegradation} \end{array} \right) - \left( \begin{array}{c} \text{pMC of sample medium} \\ \text{after biodegradation} \end{array} \right)}{\left( \begin{array}{c} \text{pMC of control medium} \\ \text{after biodegradation} \end{array} \right)} \quad (2)$$

wherein a carbon content in the sample medium before biodegradation (D) is

$$D = \frac{\text{Carbon content} \\ \text{derived from sample (g)}}{B} \quad (3)$$

wherein a carbon content in sample medium after biodegradation (E) is

$$E = D - \text{Amount of carbon dioxide discharged from sample medium (g)} \times \frac{12}{44} \quad (4)$$

and wherein a biodegradation rate is

$$\text{Biodegradation rate (\%)} = \left[ 1 - \frac{E \times C}{D \times B} \right] \times 100 \quad (5)$$

$$= \left[ 1 - \frac{E \times C}{\text{Carbon content} \\ \text{derived from sample (g)}} \right] \times 100 \quad (6);$$

or

wherein said biodegradation rate is determined using the following calculation formulae

$$H = \frac{F}{G} \times D \quad (7)$$

$$E = \frac{J}{I} \times K = \frac{J}{I} \times \frac{F}{G} \times D \quad (8)$$

wherein

F: metal concentration of sample medium before biodegradation;

G: carbon concentration of sample medium before biodegradation;

I: metal concentration of sample medium after biodegradation;

J: carbon concentration of sample medium after biodegradation;

D: carbon content (g) of sample medium before biodegradation;

E: carbon content (g) of sample medium after biodegradation;

H: metal content (g) of sample medium before biodegradation;

K: metal content (g) of sample medium after biodegradation; and K = H;

wherein the non-natural organic compound comprises no radioactive carbon isotope  $^{14}\text{C}$  which already decayed.

Claim 10. (Previously Presented) The method according to claim 4, wherein the content of a radioactive carbon isotope  $^{14}\text{C}$  is measured by using a scintillation counter or an accelerator-mass spectrometer.

Claim 11. (Previously Presented) The method according to claim 4, wherein a total content of the metal does not change before and after biodegradation.

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Claim 12. (Previously Presented) The method according to claim 4, wherein carbon dioxide generated in biodegradation is not trapped.

Claim 13. (Previously Presented) The method according to claim 4, wherein the biodegradation is not carried out in a closed reaction tank.

Claim 14. (Previously Presented) The method according to claim 4, wherein the biodegradation rate is measured with an apparatus in open atmosphere.

Claim 15. (Previously Presented) The method according to claim 4, wherein the biodegradation rate is measured without providing measures against radiation.

Claim 16. (Canceled)

Claim 17. (Canceled)

Claim 18. (New) The method according to claim 4, wherein the non-natural compound is a petrochemical.

Claim 19. (New) The method according to claim 4, wherein the non-natural compound is a coal chemical.

Claim 20. (New) The method according to claim 4, wherein the non-natural compound is a mixture of the petrochemical and the coal chemical.

***Allowable Subject Matter***

2. The following is an examiner's statement of reasons for allowance: The closest prior art, Larson, Melvin and Knowles neither alone nor in combination disclose or suggest a method for measuring a biodegradation rate of a non-natural organic compound sample without enriching the sample with radioactive carbon isotope  $^{14}\text{C}$  and wherein metal is used as an internal standard and wherein the biodegradation rate is calculated using formulae (1)-(6) or (7)-(8).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KERI A. MOSS whose telephone number is (571)272-8267. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Keri A. Moss/

Examiner, Art Unit 1797

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 1797